

Bonnell (H. H.)

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SCIENTIFICALLY

AND

RELIGIOUSLY CONSIDERED.

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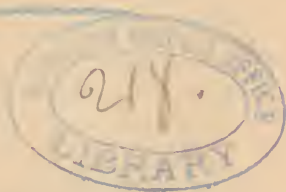
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PHILADELPHIA:
PRESS OF D. C. CHALFANT,
19 North Ninth Street.
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Scientifically & Religiously Considered.

It is my purpose, in this article, first to show the origin of earth burial, to trace its growth, and to point out, very briefly, its attendant consequences; then to consider the history, the meaning, and the results of fire burial; and finally, to attempt a reconciliation, in behalf of the latter, with Christian thought and feeling. I shall be amply satisfied if, by presenting the historical and scientific argument in such a way as to make the deduction in favor of cremation at least possible, I can thus secure the attention of candid and unbiased minds.

Inhumation was very generally customary among the primitive nations of the world, and, with the exception of simple exposure, is probably as old as any other means for the disposal of the dead. Egypt, indeed, embalmed her dead; but China, Persia and Judea, prehistoric Greece and Italy buried the lifeless bodies of their children in much the same manner as that now prevalent in Christian countries.

An examination into the reasons for this practice reveals the fact that, in most instances, it had its birth in a desire to give the spirits of the dead satisfactory rest. If a body were not well buried its shade would wander hither and thither, demanding its due; and to ensure the safety of repose the Chinese corpse is frequently re-interred. So closely are body and soul linked together in aboriginal thought that a warrior's tomahawk, an Indian father's household goods, even meals, and in at least one tribe, toothpicks, are buried with the corpse for use in the post-terrestrial life.

The sanitary precautions which the Greeks and Romans instituted show conclusively that the dangers of intramural interment were well apprehended. For the former, Plato laid down distinct rules, even forbidding burial in fields used for the cultivation of crops; and we learn from Roman history that in the early days none but the vestals were permitted interment within the city walls. In the Fourth Century stringent enactments were published, enforcing the forgotten and sadly abused laws of purer times. The Twelve Tables, as they are called, formulate such an excellent system of behavior at funerals that I am tempted to quote them at length, but find room to mention only the first and last, which have especial reference to the subject under discussion.

First Law: Let no dead body be buried or interred within the city.

Twelfth Law: Let no sepulchre be built, or funeral pile be raised within sixty feet of any house, without consent of its owner.

Thus were the possible dangers resulting from earth burial recognized and endeavored to be met in an age which we would scarcely expect to deal largely with hygienic principles.

The early Christians, no doubt influenced by the example of their Leader, who was "dead and *buried*," but who also "rose from the dead;" and believing that they would *in like manner* rise, practiced earth burial from the first. By this time, cremation had become customary in Rome, and it was perhaps to distinguish between what was deemed a heathen, and what was regarded as a Christian practice that gave an additional force to the Church's use. Omitting these reasons, however, I doubt if cremation could have been resorted to in the Catacombs, where the utmost secrecy was the only safeguard against detection and persecution.

The laws of the empire, which were, as we have seen, of the most salutary nature, and the growing habit of the Church were in conflict as soon as the influence of the latter began to assert its prominence. This grew out of the custom of burying the dead as near the church and as near the altar as possible, on account of the supposed efficacy which such a nearness would ensure. The emperors withstood this open violation of the statutes, and the rights of Cæsar (which were

then, as they are now, enviously overlooked in the earnest but fatally blinded intention of giving *all* things to God) were maintained with more or less vigor, until they were forever shattered by the illustrious example of Constantine. The tide thus turned, other Christian emperors, and princes, and benefactors claimed the right to be buried under the shadow of the sanctuary, until finally the privilege was sold to the highest bidder. Hence the epitaph of the man who, deprived of sufficient means to secure burial beneath the altar, frankly states :

Here I lie beside the door ;
Here I lie because I'm poor.
The farther in the more you pay,
Here I lie as well as they.

Some notable rulers of the medieval Church, especially Gregory the Great, condemned these "voluntary gifts," and forbade intramural interment ; yet the custom was never permanently checked, but rather increased with the increasing years, bringing with it untold misery, sickness and death.

I pass on to our own times. The majority of graveyards to-day are owned by individuals or private corporations, and are used as money-making investments. Mr. A. Wynter Blyth, M. R. C. S., Medical Officer of Health for Marlebone, (Eng)., instances the case of Spatfields burial ground, which is only one acre in extent, and into which, in fifty years, 80,000 bodies have been cast. To make room for the newly dead the most flagrantly indecent treatment (the details of which are too sickening to relate) of the older corpses is resorted to. In the words of a recent writer, "England is divided as a chess board, into alternate tracts, the abodes of the living and the resting-places of the dead," and the relief of this abnormal state of things is one of the vexing problems of the day.

But so far we have not dealt with the particular dangers to health which earth burial originates, and the knowledge of which (although imperfect) in the minds of the ancients gave rise to their sanitary laws. After death, changes in the tissue occur which render a speedy removal of the body (especially in the case of infectious disease) a supreme necessity.

The gases of decomposition permeate the soil of burial grounds, poisoning the "ground air," which finds its way into the adjoining houses to perform its deadly work upon the inmates ;—for statistics show that the general rate of sickness is much higher around grave-yards than elsewhere, and that epidemics are especially fatal in such localities.

The presence of bacteria is no longer a disputed fact in medical science. These disease germs grow and propagate in the warmth and moisture of grave-yards. If each of the contagious diseases is traceable to a particular bacillus or microbe, as many physicians believe, it follows that the *destruction* of this special enemy will eliminate the disease ; and although this perhaps can never be altogether accomplished, an approximation may be reached by removing one of the chief sources of its growth.*

The cholera in London, in 1854, was greatly aggravated by cutting a viaduct through an old burial ground ; and the plague in Modena, in 1820, grew to alarming proportions by means of the upheaval of ground where victims of a similar plague had been buried three hundred years before. A recent epidemic of scarlatina in the vicinity of an English churchyard led to the discovery (after all other suggested causes had been investigated and overthrown) that the bodies of those who had died from a scarlatina outbreak, some thirty years previously, were buried in these grounds.

The chief gases of decomposition are carbonic acid and marsh, in which grave-yards are especially rich. An increased mortality in the vicinity of a cemetery at Paris was found to have had its cause in the water drunk by the infected, which was permeated with the products of decomposition. At Manchester, England, such an amount of carbonic acid gas recently escaped from the soil of a grave-yard in which the diggers were at work, that artificial ventilation had to be resorted to to sustain life.

The water-supplies of country houses are frequently the wells and springs under the hill on which the village ceme-

*The crematory, be it remembered, *kills* germs.

tery is built; and sickness in such houses may often be traced to the contamination of these supplies by organic deposits, or by the gases generated by decaying bodies. Dr. Lyon Playfair, of London, writes: "I have examined various church-yards and burial grounds for the purpose of ascertaining whether the layer of earth above the bodies is sufficient to absorb the putrid gasses evolved. The slightest inspection shows that they are not thoroughly absorbed by the soil lying over the bodies. I know several churchyards where the most fetid smells are evolved, and gases with similar odors are emitted from the sides of sewers passing in the vicinity of church yards, although they may be more than thirty feet away from them." To which Sir Henry Thompson adds: "Thousands of human lives have been cut short by the poison of slowly decaying and oftentimes diseased animal matter. The grave-yard pollution has probably found a victim in some social circle known to more than one who may chance to read this; and I need hardly add that in times of pestilence, its continuance has been often due mainly to the poisonous influence of the buried dead." The London Commission of 1849 (which was composed of the leading professors of physical and medical science) concluded its report with these words "We may safely rest the sanitary part of the case on the single fact that the placing of the dead body in a grave, and covering it with a few feet of earth does not prevent the gases generated by decomposition, together with putrescent matter which they hold in suppression, from permeating the surrounding soil and escaping into the water beneath and the air above."

Finally, in these days of "body snatching," there is no certainty that the form which we loved, and which was once the temple of the Most High God, and which we watched lowered into the grave with Christian rites,—there is no certainty that this form rests there in peace. The desecrations carried on by midnight ghouls,—generally, be it said to their shame, by medical students,—are increasing in number and in wantonness, and seem to baffle the most active energies of the authorities. To prevent this, and in a vain attempt to escape

corruption, we sometimes bury in vaults, and try to keep from Nature that which is Nature's due. If earth burial is pernicious, burial in vaults is doubly so; for the deleterious products of decomposition are *stored up* in a small area, to be let loose every time the doors are opened, or to make their escape through the "ventilating holes" at the side or on the top. Why not make use of a system which, by effectually disposing of the remains we wish to reverence, will prevent sickness, will give to the living much land which is unduly held by the dead, and which will offer the only sure protection against the crookedness of grave-yard directors and the violations of the "body snatcher"?

Fire burial, in the history of certain nations, is nearly, if not quite, contemporaneous with inhumation. Some aborigines practice it at the present time to prevent cannibalism. The ancient Teutons and Indians buried the dead,—the latter, because of their belief that such a process resolved the body into its component elements,—air, earth, fire, and water. The Indian mind, deeply tinged with religious and philosophic thought, regarded cremation as purifying the spirit before its entrance into its new existence. We have seen that the prehistoric Greeks interred their dead. The Phrygians, borrowing the custom, it is thought, from India, introduced cremation into Greece several centuries before Christ. There was no change in the religious belief of the nation to warrant such a substitution, and one is forced to conclude that the subtle intellect of that marvellous people grasped the sanitary advantages of the new, over the old, custom, and acted accordingly. The West adopted the custom from Greece; and when Caesar undertook the conquest of Gaul he found it universal in that country. Mr. Eassie, whose profound studies upon this subject always entitle him to a hearing, says that he has never come across an instance in which cremation was carried out as a punishment. "On the contrary, it was always held up where practiced, as a beneficent and worthy proceeding, so much so that among the ancient Romans the bodies of infants and of persons killed by lightning were never permitted the rite. The reverence for cre-

mation was also carried to such an extent that the funeral pile has been shaped like an altar, incensed, and an altar afterwards built before the sepulchre."

What does cremation do? The answer is tersely put, in the shape of a problem, by Sir Henry Thompson:—"Given a dead body, to resolve it into carbonic acid, water and ammonia, rapidly, safely, and not unpleasantly." As a matter of fact, cremation accomplishes this; and it has been shown that earth burial does not. One is a quick, the other a slow process; and the difference in time (added to the precautions observed in our modern crematories) constitutes the important feature which secures for fire burial the almost universal support of scientific thought. For it must be remembered that combustion occurs whether the body be left to worms or turned quickly to ashes. The evil results of the prevalent system have been duly emphasised. The body, in earth burial, becomes dust after many years; and in this slowly moving disintegration it scatters the seeds of putridity, helping to load air and water with their loathsome presence. In fire burial, on the other hand, the products of decomposition are destroyed, annihilated, with the pure white ash as the only residuum, incapable of harm, and a reminder perchance to those who remain of the earthly tenement in which the soul of the deceased once dwelt. For, as says Sir Thomas Browne, "he who hath the ashes of his friend hath an everlasting treasure."

Fire is a purifying element. After plagues fires are burned in the public streets; and the furniture of rooms in which those ill with infectious disease have been confined are, or should be, invariably destroyed. On battle fields, where the dead lie in great numbers, cremation is practiced to obviate the dangers arising from hasty and superficial burial. Indeed, we have divine accordance here allied with scientific judgment, for the Levitical law commanded that the garment worn by a leper should be burned in the fire, because it was *unclean*.

Fire burial is opposed by many on the plea that the "body should be left to Nature." If we do not "leave" our bodies while alive, "to nature," why should we so leave them

when dead? Where is the dividing line? Nature needs assistance. We should resort to no *unnatural* process, either with the living or the dead. But in hastening Nature's work, so far from blocking her progress, we are removing the blocks upon her progress. A prominent American physician says: "A limb is attacked by gangrene; nature might effect an amputation in time and save the patient's life; the chances are she would not; anyway, we do not wait to see, but call upon art to perform in minutes, what Nature, unaided, would require months to do." "Change" this writer goes on to say, "is the one inflexible law stamped on all created things, and we do not contravene Nature's teachings when we help to perform quickly the process of her alchemy."

Many reforms have been suggested in the hope of obviating the recognized evils of earth burial, but none which has been tried has met with success, while most of them remain untried on account of their obvious impracticability. Mr. Blythe, for example, proposes to turn the grave-yards into plantations after a certain number of years,—“a scheme,” as has been said, “to raise cabbages and turnips from our defunct relatives.” The dangers surrounding earth burial, in case of the adoption of such a system, still remain possible, while the cities would continue to encroach upon the grave-yards with the same rapidity as at present.

The best methods of interment are inferior to the faultless system of the crematory, in which the body melts into a pure ash, without touching the flame, but subjected to a heat of some 2,000°. There is neither smoke nor odor; and the expense is less than that attendant upon the customary funeral.*

*Of course, cremation may be made as expensive as possible; but it has been estimated that the average cost is one-quarter that of the price usually paid the undertaker. The exact process is thus described by a late writer in the *Sanitarian*:—"The body is placed on a catafalque in front of the altar, the section of floor upon which it rests being constructed for the floor of an elevator. This conducts the body directly in front of the incinerator, which by supplying superheated air has been raised to a heat of 2,000° F. The body is placed on a metallic bed, and after having been covered with asbestos, or a linen cloth saturated in a solution of alum, to prevent sudden charring, is passed into the incinerator. It immediately becomes incandescent, and so remains until the process is completed. There remain but a few pounds of ashes, equivalent to about 5 per cent. of the original weight." It should also be remembered that the products of combustion are purified in a regenerating furnace before they are allowed to escape into the air.

I can see no reason why Christian sentiment should be arrayed against cremation, after the horrors surrounding earth burial have become known. I should rather think it incumbent upon religious men to join with the men of science in a concentrated effort to mould sentiment in its favor. The Christian minister views the argument with distrust because it is chiefly advocated by men who either have lost, or who have never had, faith in Christianity. So, because Mr. Herbert Spencer argues in behalf of monogamy, on purely scientific grounds, will this Christian minister turn polygamous? The man of science points out an incontrovertible truth. No incontrovertible truth of science has ever moved one jot or tittle of the Christian faith; but the Christian faith may take hold of that truth and give its sanction to it, and elevate it by making a religious use of it. Truth is always sacred; therefore scientific truth should be, and is, religious truth as well.

I approach the chief objection of the Christian to fire burial with reverence, deeply conscious that such a subject is not to be lightly considered, or passed over with the almost contemptuous treatment it usually receives. But I ask for a calm consideration of the question: "Does cremation affect the doctrine of the Resurrection of the Body?" If the trump shall sound a thousand years after my burial, how much of my body will there be in the grave to respond? Where will that body be at that time? We know precisely that it will have been resolved into its component parts and will have been mingled with the elements. Hamlet's logic, if eccentric, is at least not faulty:

"Alexander died, Alexander was buried. Alexander returneth to dust,
the dust is earth, of earth we make loam; and why of that loam whereto
he was converted might they not stop a beer barrel?

Imperious Caesar dead, and turned to clay,

Might stop a hole to keep the wind away.

Oh! that the earth which kept the world in awe

Should patch a wall to expel the winter's flaw!"

In truth, the dead body, long before a thousand years shall have elapsed, will have passed partially into the vegetable world, will have been partially dissolved into invisible

gases, and so far as its compactness is concerned, will have become null and void. Is it, then, harder to grasp the dogma of the Resurrection of the body that has been burned than of the body which has been buried? I have already tried to show that the same process holds sway in either method, the difference being merely one of time. Even accepting the belief in the literal Resurrection of the same body in which the soul once dwelt, it is easier for me to believe that that body is to be re-created out of the *ash* that remains from incineration than from the *nothing* which remains from inhumation.

That the Founder of our Faith was buried is, it seems to me, an historical fact and nothing more. It was the custom of the place and of the time. The apostle naturally bases his argument for the Resurrection of the dead upon the fact of our Lord's Resurrection; and his beautiful imagery has in that fact its foundation stone. But other methods of burial are, certainly, not even implicitly condemned by our Lord's example; and if it had so happened that the Redeemer's body had been cremated, the Apostle's inspired eloquence would merely have taken another shape. The doctrine of the Resurrection cannot be changed by *any* mode of disposal, for the Lord of all is able to rule all. To those, however, who insist upon connecting the Resurrection of the body with earth burial, I would refer the Marquis of Shaftsbury's question: "What then has become of the blessed martyrs?"

The argument that cremation is a heathen custom is, in fact, no argument at all. Earth burial and fire burial are alike originally "heathen customs," although the latter was more closely allied with religious thought than the former. Granted however, that it is a "heathen custom," why should that affect its virtue? Are the customs of a nation to be rejected *in toto* simply because that nation has not been taught the Christian Faith? It is the narrowest kind of bigotry which refuses to accept the good only because there is bad mixed up with it. I have heard the same argument (although it does not deserve the name) used against Christ-

imity itself by atheists who professed disbelief in Easter, *e. g.*, on the ground that it was nothing but the revival of an old "heathen custom."

I have always fancied that the theological idea of Purgatory was evolved from the known results of fire upon the body. As the body is cleansed by fire, so also must be the soul. The knowledge of the cleansing properties of fire is a part of the universal wisdom of the world, and enters largely into much of its philosophy ; and it is quite possible that dogmas pertaining to the spiritual part of man should have both their origin and their similitude in his physical part.

Religious services, during the process of cremation, may be held with just as much impressiveness and just as much heartfelt fervor as in the case of earth burial. The present movement in favor of cremation is by no means an irreligious one. The grounds being built by the societies forming in many of our cities have chapels amongst their appurtenances ; and the fact that Christian rites are not limited to *one* method of burial is distinctly recognized.

The believer, then, after providing for the safety of his soul, with a fixed faith in God's promises, and an earnest assurance of the final resurrection ; in the knowledge that his dead body may harm living bodies, and that this world belongs to the living and not the dead,—the believer may commit his earthly part into the hands of those who, instead of allowing it to become a loathsome feeding ground for worms, will change it into a semblance of the soul, which has perhaps already put on the white garments of immortality.



